We Claim:

1. A fuel assembly for a nuclear reactor in a nuclear power plant, comprising:

a plurality of spacers;

a multiplicity of fuel rods extending in a longitudinal direction through said spacers;

said fuel rods defining a passage for a flow of coolant thereinbetween; and

at least one of said spacers carrying a vane disposed to impart a swirl impulse to the flow of coolant, said vane being curved in the longitudinal direction and in a transverse direction and having a shape resembling a spoon or a paddle.

2. The fuel assembly according to claim 1, wherein said vane has a root within said at least one spacer and the curved shape of said vane continues to said root.

3. The fuel assembly according to claim 1, wherein said vane has a cross section with defined area moment of inertia, and the area moment of inertia is at a maximum in a region where said vane emerges from said at least one spacer.

4. The fuel assembly according to claim 1, wherein said vane has a cross section with defined area moment of inertia, and the area moment of inertia is set during a production of said vane by stretching and/or compressing a material of said vane in more than one direction.

5. The fuel assembly according to claim 1, wherein said vane has a root and a free end, and a width of said vane at said free end is smaller than a width at said root.

6. The fuel assembly according to claim 5, wherein the width at said free end is half the width at said root.

7. The fuel assembly according to claim 1, wherein said vane has a root and a free length, and said free length of said vane is approximately twice a width at said root.

8. The fuel assembly according to claim 1, wherein said vane and a web of said at least one spacer bearing said vane are integrally formed of a single workpiece.

9. The fuel assembly according to claim 1, wherein said vane has a free length and the curved shape of said vane continues into said spacer over a distance of 0.5 to 1.0 times said free length of said vane.

10. The fuel assembly according to claim 1, wherein said vane has a root and a long axis, said at least one spacer has a web carrying said vane and separating cells of said at least one spacer, and said web has an opening formed therein underneath said root of said vane in a direction of the long axis of said vane.

11. The fuel assembly according to claim 1, wherein said at least one spacer has a web carrying said vane, and said vane is bent by up to 45° out of a plane of said web and into the passage for the flow of coolant, and wherein the flow of coolant impinges on a concave side of said vane.

12. The fuel assembly according to claim 1, wherein said at least one spacer is formed with webs, and a longitudinal axis of said vane forms an acute angle with a longitudinal edge of said web on a side thereof facing an adjacent intersection with a respectively other web.

13. The fuel assembly according to claim 1, wherein said at least one spacer is formed with webs, and two mutually intersecting webs each bear a respective said vane on both sides of an intersection thereof.

14. The fuel assembly according to claim 13, wherein all said vanes adjoining a common intersection act on the stream of coolant in the same direction.

15. The fuel assembly according to claim 13, wherein said vanes of mutually adjoining intersections are disposed to produce oppositely directed swirl impulses.

16. The fuel assembly according to claim 1, wherein the coolant flowing through said at least one spacer defines an outflow end of said spacer, and said vanes are supported by webs of said spacer on the outflow end thereof.

17. The fuel assembly according to claim 1, wherein said at least one spacer is comprised of webs formed by sleeves with mutually interconnected longitudinal sides and each surrounding a respective said fuel rod.